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Intellectual Property Dept. Dewitt Ross & Stevens SC 2 East Mifflin Street Suite 600 Madison, WI 53703-2865			EXAMINER TANNER, JOCELYN C	
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			3731	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

doctet-ip@dewittross.com

### Office Action Summary

**Application No.**

10/595,371

**Applicant(s)**

KEEBLE ET AL.

**Examiner**

JOCELIN C. TANNER

**Art Unit**

3731

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 May 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 5-12, 15-22, 25-29 and 31-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 5-12, 15-22, 25-29 and 31-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This Office Action is in response to the Amendment filed 10 May 2010. Claims 1, 5-12, 15-22, 25-29 and 31-33 are currently pending. The Examiner acknowledges the amendments to claims 11, 16 and 30, the cancellation of claims 2-4, 13, 14, 20, 21, 23, 24, 30 and new claims 32 and 33.

#### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10 May 2010 has been entered.

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Regarding claim 15, the recitation "inserting the end of the device into the catheter" is unclear. Claim 15 is dependent on claim 1 wherein the device includes a catheter and a plurality of articulating segments. Therefore, to insert the end of the device into itself is not possible. The Examiner is unclear if the device is inserted into another and different catheter or if the implant is attached only to the end of the articulated segments and is then inserted into the catheter. For the purposes of art

rejections, the claim language will be interpreted as the device being inserted into another catheter.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1, 5, 7, 9, 10, 16, 17, 19, 22, 25 and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (US Patent No. 5,158,086) in view of Adams et al. (US Patent No. 6,179,776).**

7. Regarding claims **1 and 16**, Brown et al. disclose a device including a catheter (58) having a plurality of detachable, hingeably connected segments disposed therein, each segment being hingeably connected to two adjacent segments or a single adjacent segment if at the end of the line, each segment bearing a male part including a ball and a female part, wherein a male part (42) engages within the socket of a female (44), the socket being sized with a diameter greater than that of the ball such that the ball is freely insertable within and removable from the socket without interference, the line of segments are capable of adopting a curved path within the catheter (column 5, lines 20-31, column 6, lines 10-17, 48-67, Fig. 2A). A medical implant is capable of being attached to an end of the device and can be advanced through the catheter by pushing the other end of the device. However, Brown et al. fails to expressly disclose a

male part including a pair of projections and a female part including slots that receive the projections.

Adams et al. teaches an endoscopic sheath apparatus wherein spherical mating members or "segments" (74, 76, 78) are disposed within a sheath (82) to provide flexibility to the sheath (Fig. 9), each segment having a ball with index tabs or "projections" (81) and a socket with slots (79) (column 9, lines 22-35, 64-68, column 10, lines 5-65, Figs. 13-15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided the segments of Brown et al. with the projections and slots, as taught by Adams et al., to enhance the attachment between the segments and control the flexibility of the segments (column 10, lines 40-50).

The Examiner notes that the device of the combination of Brown et al. and Adams et al. is capable of having a medical implant mounted thereon to be advanced through a catheter. Regarding the limitation, "whereby a medical implant mounted at one end of the device can be advanced through a catheter by pushing on the other end of the device, the hinged connections allowing the device to follow a curved path through the catheter, characterized in that each segment is detachable from its adjacent segment(s)", the Examiner notes that the manner or method in which an device is to be utilized is not germane to the issue of patentability of the device itself (In re Casey, 370 F.2d 576, 152 USPQ 235 (CCPA 1967)). Furthermore, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed

does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987).

8. Regarding claim 5, the combination of Brown et al. and Adams et al. discloses segments that may be formed of a resilient plastic having sufficient strength to retain structural integrity against the forces imposed by control wires and also allow socket elements to be sized for a snap-fit interconnection with the ball element (column 6, lines 50-55, Brown et al.). The combination of Brown et al. and Adams et al. fails to expressly disclose segments formed from a material sufficiently stiff to allow a moment of at least 1 Newton metre to be transmitted through the device. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have formed the segments from a material sufficiently stiff to allow a moment of at least 1 Newton metre to be transmitted through the device, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

9. Regarding claims 7 and 17, Adams et al. teach a segment having an internal passage that would allow a guide wire to pass therethrough (Fig. 13).

10. Regarding claim 9, the combination of Brown et al. and Adams et al. discloses a ratio of the length to the widest diameter of each segment that appears to be 1:1 to 1:5 (Fig. 2A).

11. Regarding claim 10, the combination of Brown et al. and Adams et al. discloses that the amount of articulation is capable of being controlled (column 10, lines 40-65,

Adams et al.). The combination of Brown et al. and Adams et al. discloses the claimed invention except for a maximum of 15 degrees of articulation between the longitudinal axes of two adjacent segments. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided a maximum of 15 degrees of articulation between the longitudinal axes of two adjacent segments, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

12. Regarding claims **19**, Adams et al. teach each segment having an internal passage that is spaced from the segment's outer circumference and extends through the segment Fig. 13).

13. Regarding claim **22**, Brown et al. disclose segments that snap-fit into adjacent segments (column 6, lines 50-53).

14. Regarding claim **25**, Brown et al. disclose segments that appear to have lengths that are less than or equal to their diameters (Fig. 2A).

15. Regarding claim **27**, Adams et al. teach projections (81) that protrude from the ball and slots (79) that extend along a wall of the socket (Figs. 13-15).

16. Regarding claim **28**, Adams et al. teach slots (79) that are aligned along the same plane of the projections (81) (Figs. 13-15).

17. Regarding claims **29**, Brown et al. disclose a catheter (58) that is at least partially spaced from the outer surfaces of the segments (Fig. 2A).

18. **Claims 6, 8, 18, 26 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (US Patent No. 5,158,086) in view of Adams et al.**

**(US Patent No. 6,179,776), as applied to claims 1 and 16 above, and further in view of Danitz et al. (US PGPub No. 2004/0236316A1).**

19. Regarding claim 6, the combination of Brown et al. and Adams et al. discloses all of the limitations previously discussed except for a device having 15 segments

Danitz et al. teaches a device having an articulating mechanism including 15-80 segments (Fig. 1F) or any number of links and link pairs dependent on the body region of use and desired length of the articulating mechanism ([0048]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided the combination of Brown et al. and Adams et al. with 13 to 80 segments, as taught by Danitz et al., to provide an overall length of the device that is dependent on the intended body region of use and desired length of the articulating mechanism [0048].

20. Regarding claims 8, 18 and 31, Danitz et al. discloses a channel defined on an outer surface or circumference of each segment wall such that the channels are aligned along a common path ([0020], Fig. 5A).

21. Regarding claim 26, Danitz et al. teaches segments having diameters ranging from 0.5mm to 15mm which is within the claimed range of 10mm or less [0034].

22. **Claims 11, 12, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (US Patent No. 5,158,086) in view of Adams et al. (US Patent No. 6,179,776), as applied to claim 1 above, and further in view of Solar (US Patent No. 6,004,328).**

23. Regarding claim **11 and 12**, the combination of Brown et al. and Adams et al. discloses all of the limitations previously discussed except for a medical implant mounted on one end of the device.

Solar teaches a stent delivery system including a delivery catheter (10) having an outer tube (14) and an inner tube (24) wherein a stent is placed on the distal end of an inner tube and is pushed through and out of the outer tube to be deployed (column 6, lines 28-31, 42-61, column 7, lines 5-8, column 8, lines 33-36, column 9, lines 5-37).

Therefore, it would have been obvious to one of ordinary skill in the art to have applied the known technique of attaching an implant to the distal end of a device and inserting the device within a delivery catheter to the device of the combination of Brown et al. and Adams et al., as taught by Solar, for the predictable result of deploying a stent within a body cavity in a minimally invasive manner and having increased flexibility and maneuverability for positioning a stent at a desired location.

24. Regarding claim **15**, Brown et al. disclose a device including a catheter (58) having a plurality of detachable, hingeably connected segments disposed therein, each segment being hingeably connected to two adjacent segments or a single adjacent segment if at the end of the line, each segment bearing a male part including a ball and a female part, wherein a male part (42) engages within the socket of a female (44), the socket being sized with a diameter greater than that of the ball such that the ball is freely insertable within and removable from the socket without interference, the line of segments are capable of adopting a curved path within the catheter (column 5, lines 20-31, column 6, lines 10-17, 48-67, Fig. 2A). A medical implant is capable of being

attached to an end of the device and can be advanced through the catheter by pushing the other end of the device. However, Brown et al. fails to expressly disclose a male part including a pair of projections and a female part including slots that receive the projections.

Adams et al. teaches an endoscopic sheath apparatus wherein spherical mating members or "segments" (74, 76, 78) are disposed within a sheath (82) to provide flexibility to the sheath (Fig. 9), each segment having a ball with index tabs or "projections" (81) and a socket with slots (79) (column 9, lines 22-35, 64-68, column 10, lines 5-65, Figs. 13-15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided the segments of Brown et al. with the projections and slots, as taught by Adams et al., to enhance the attachment between the segments and control the flexibility of the segments (column 10, lines 40-50).

The Examiner notes that the device of the combination of Brown et al. and Adams et al. is capable of having a medical implant mounted thereon to be advanced through a catheter.

Solar teaches a stent delivery system including a delivery catheter (10) having an outer tube (14) and an inner tube (24) wherein a stent is placed on the distal end of an inner tube and is pushed through and out of the outer tube to be deployed (column 6, lines 28-31, 42-61, column 7, lines 5-8, column 8, lines 33-36, column 9, lines 5-37).

Therefore, it would have been obvious to one of ordinary skill in the art to have applied the known technique of attaching an implant to the distal end of a device and

inserting the device within a delivery catheter to the device of the combination of Brown et al. and Adams et al., as taught by Solar, for the predictable result of deploying a stent within a body cavity in a minimally invasive manner and having increased flexibility and maneuverability for positioning a stent at a desired location.

**25. Claims 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (US Patent No. 5,158,086) in view of Adams et al. (US Patent No. 6,179,776), as applied to claims 1 and 16 above, and further in view of Forknall et al. (US Patent No. 4,626,113).**

26. Regarding claims **32 and 33**, the combination of Brown et al. and Adams et al. discloses all of the limitations previously discussed except for the slots having a narrow and smaller widths than the diameters of the projections at the mouth such that passage of the projections are resisted.

Forknall et al. teach a device having snap-fittings wherein the prongs (30) are inserted within slots (38), the slots having a narrow entrance that gradually enlarges, thus being capable of adapting to receive the prongs as a snap-fit (column 4, lines 22-25).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided the slots of the device of the combination of Brown et al. and Adams et al. with narrow entrances, as taught by Forknall et al., to create a snap-fit connection (column 4, lines 22-25).

**27. Claims 1, 5, 7, 9, 10, 16, 17, 19, 22, 25 and 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Belson (US PGPub No. 2003/0032859A1) in view of Adams et al. (US Patent No. 6,179,776).**

28. Regarding claim 1, Belson discloses a device including a plurality of detachable, hingeably connected segments, each segment being hingeably connected to two adjacent segments or a single adjacent segment if at the end of the line, each segment connected by a ball-and-socket type joint wherein a male part engages within the socket of a female (0025, 0072, 0076], Fig. 7A). The device of Belson may be disposed within an endoscope and inserted into a body cavity through a surgical tube such as a surgical cannula or introducer [0093]. Although Belson fails to expressly disclose the surgical tube as a catheter, it is well known in the art to introduce an endoscope into a body through a large diameter tube such as a catheter. A medical implant is capable of being attached to an end of the device and can be advanced through the catheter by pushing the other end of the device. However, Belson fails to expressly disclose segments bearing a male part including a pair of projections and a female part including a socket with slots.

Adams et al. teaches an endoscopic sheath apparatus wherein spherical mating members or "segments" (74, 76, 78) are disposed within a sheath (82) to provide flexibility to the sheath (Fig. 9), each segment having a male and female part, the male part having a ball with index tabs or "projections" (81) and the female part having a socket with slots (79) (column 9, lines 22-35, 64-68, column 10, lines 5-65, Figs. 13-15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted the segments of Belson with the segments, as taught by Adams et al., for the predictable result of enhancing the attachment between the segments and controlling the flexibility of the segments (column 10, lines 40-50).

The Examiner notes that the device of the combination of Belson and Adams et al. is capable of having a medical implant mounted thereon to be advanced through a catheter. Regarding the limitation, "whereby a medical implant mounted at one end of the device can be advanced through a catheter by pushing on the other end of the device, the hinged connections allowing the device to follow a curved path through the catheter, characterized in that each segment is detachable from its adjacent segment(s)", the Examiner notes that the manner or method in which an device is to be utilized is not germane to the issue of patentability of the device itself (In re Casey, 370 F.2d 576, 152 USPQ 235 (CCPA 1967)). Furthermore, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987).

29. Regarding claim 5, the combination of Belson and Adams et al. discloses segments that may be formed of stainless steel, thermoplastic polymers and plastics. The combination of Belson and Adams et al. fails to expressly disclose segments formed from a material sufficiently stiff to allow a moment of at least 1 Newton metre to be transmitted through the device. It would have been obvious to one having ordinary

skill in the art at the time the invention was made to have formed the segments from a material sufficiently stiff to allow a moment of at least 1 Newton metre to be transmitted through the device, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

30. Regarding claims **7 and 17**, Adams et al. teach a segment having an internal passage that would allow a guide wire to pass therethrough (Fig. 13).

31. Regarding claim **10**, the combination of Belson and Adams et al. discloses that the amount of articulation is capable of being controlled (column 10, lines 40-65, Adams et al.). The combination of Belson and Adams et al. discloses the claimed invention except for a maximum of 15 degrees of articulation between the longitudinal axes of two adjacent segments. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided a maximum of 15 degrees of articulation between the longitudinal axes of two adjacent segments, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

32. Regarding claim **16**, Belson discloses a device including an endoscope that may be inserted into a body cavity through a surgical tube such as a surgical cannula or introducer [0093] that includes an interior passage therethrough. Although Belson fails to expressly disclose the surgical tube as a catheter, it is well known in the art to introduce an endoscope into a body through a large diameter tube such as a catheter. Belson further discloses the device including a plurality of detachable, hingeably

connected segments arrayed in a line, each segment pivotably abutting adjacent segments whereby the line of segments are capable of adopting a curved path within the catheter, each segment connected by a ball-and-socket type joint wherein a male part engages within the socket of a female (0025, 0072, 0076], Fig. 7A). A medical implant is capable of being attached to an end of the device and can be advanced through the catheter by pushing the other end of the device. However, Belson fails to expressly disclose segments bearing a male part including a pair of projections and a female part including a socket with slots.

Adams et al. teaches an endoscopic sheath apparatus wherein spherical mating members or "segments" (74, 76, 78) are disposed within a sheath (82) to provide flexibility to the sheath (Fig. 9), each segment having a male and female part, the male part having a ball with index tabs or "projections" (81) and the female part having a socket with slots (79) (column 9, lines 22-35, 64-68, column 10, lines 5-65, Figs. 13-15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted the segments of Belson with the segments, as taught by Adams et al., for the predictable result of enhancing the attachment between the segments and controlling the flexibility of the segments (column 10, lines 40-50).

The Examiner notes that the device of the combination of Belson and Adams et al. is capable of having a medical implant mounted thereon to be advanced through a catheter. Regarding the limitation, "whereby a medical implant mounted at one end of the device can be advanced through a catheter by pushing on the other end of the

device, the hinged connections allowing the device to follow a curved path through the catheter, characterized in that each segment is detachable from its adjacent segment(s)", the Examiner notes that the manner or method in which an device is to be utilized is not germane to the issue of patentability of the device itself (In re Casey, 370 F.2d 576, 152 USPQ 235 (CCPA 1967)). Furthermore, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987).

33. Regarding claims **19**, Adams et al. teach each segment having an internal passage that is spaced from the segment's outer circumference and extends through the segment Fig. 13).

34. Regarding claim **27**, Adams et al. teach projections (81) that protrude from the ball and slots (79) that extend along a wall of the socket (Figs. 13-15).

35. Regarding claim **28**, Adams et al. teach slots (79) that are aligned along the same plane of the projections (81) (Figs. 13-15).

36. Regarding claims **29**, Belson disclose a catheter that is capable of being at least partially spaced from the outer surfaces of the segments [0022].

37. **Claims 6, 8, 9, 18, 25, 26 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Belson (US PGPub No. 2003/0032859A1) in view of Adams et al. (US Patent No. 6,179,776), as applied to claims 1 and 16 above, and further in view of Danitz et al. (US PGPub No. 2004/0236316A1).**

38. Regarding claim 6, the combination of Belson and Adams et al. discloses all of the limitations previously discussed except for a device having 15 segments

Danitz et al. teaches a device having 15-80 segments (Fig. 1F) or any number of links and link pairs dependent on the body region of use and desired length of the articulating mechanism ([0048]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided the combination of Belson and Adams et al. with 13 to 80 segments, as taught by Danitz et al., to provide an overall length of the device that is dependent on the intended body region of use and desired length of the articulating mechanism [0048].

39. Regarding claims 8, 18 and 31, Danitz et al. discloses a channel defined on an outer surface of the socket wall that are aligned along a common path ([0020], Fig. 5A).

40. Regarding claim 9, Danitz teaches a ratio of the length to the widest diameter of each segment that appears to be 1:1 to 1:5 (Fig. 2b).

41. Regarding claim 25, Danitz teaches segments that appear to have lengths that are less than or equal to their diameters (Fig. 2b).

42. Regarding claim 26, Danitz et al. teaches segments having diameters ranging from 0.5mm to 15mm which is within the claimed range of 10mm or less [0034].

43. **Claims 11, 12, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Belson (US PGPub No. 2003/0032859A1) in view of Adams et al. (US Patent No. 6,179,776), as applied to claim 1 above, and further in view of Geitz (US Patent No. 6,146,389).**

44. Regarding claim **11 and 12**, the combination of Belson and Adams et al. discloses all of the limitations previously discussed except for a medical implant mounted on one end of the device.

Geitz teaches a stent deployment device having a stent, a "vascular graft", or a "medical implant" (22) circumferentially compressed over the protective cap (20) at the distal end of a flexible endoscope or "articulated device" (10) (column 3, lines 12-15, line 37 and 44-45). Please see figure 1.

Therefore, it would have been obvious to one of ordinary skill in the art to have applied the known technique of attaching an implant to the distal end of an endoscope of the combination of Belson and Adams et al., as taught by Geitz, for the predictable result of urging a device through a delivery catheter and deploying an implant within a body cavity in a minimally invasive manner and having increased flexibility and maneuverability for positioning the implant within a vessel.

45. Regarding claim **15**, Belson discloses a device including a plurality of detachable, hingeably connected segments, each segment being hingeably connected to two adjacent segments or a single adjacent segment if at the end of the line, each segment connected by a ball-and-socket type joint wherein a male part engages within the socket of a female (0025, 0072, 0076], Fig. 7A). The endoscope of Belson may be inserted into a body cavity through a surgical tube such as a surgical cannula or introducer [0093]. Although Belson fails to expressly disclose the surgical tube as a catheter, it is well known in the art to introduce an endoscope into a body through a large diameter tube such as a catheter by pushing on an end of the endoscope. A medical implant is

capable of being attached to an end of the device and can be advanced through the catheter by pushing the other end of the device. However, Belson fails to expressly disclose segments bearing a male part including a pair of projections and a female part including a socket with slots and an implant mounted on one end of the device.

Adams et al. teaches an endoscopic sheath apparatus wherein spherical mating members or "segments" (74, 76, 78) are disposed within a sheath (82) to provide flexibility to the sheath (Fig. 9), each segment having a male and female part, the male part having a ball with index tabs or "projections" (81) and the female part having a socket with slots (79) (column 9, lines 22-35, 64-68, column 10, lines 5-65, Figs. 13-15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted the segments of Belson with the segments, as taught by Adams et al., for the predictable result of enhancing the attachment between the segments and controlling the flexibility of the segments (column 10, lines 40-50).

Geitz teaches a stent deployment device having a stent, a "vascular graft", or a "medical implant" (22) circumferentially compressed over the protective cap (20) at the distal end of a flexible endoscope or "articulated device" (10) (column 3, lines 12-15, line 37 and 44-45, column 5, lines 20-34).

Therefore, it would have been obvious to one of ordinary skill in the art to have applied the known technique of attaching an implant to the distal end of an endoscope of the combination of Belson and Adams et al., as taught by Geitz, for the predictable result of urging a device through a delivery catheter and deploying an implant within a

body cavity in a minimally invasive manner and having increased flexibility and maneuverability for positioning the implant within a vessel.

**46. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Belson (US PGPub No. 2003/0032859A1) in view of Adams et al. (US Patent No. 6,179,776), as applied to claims 1 and 16 above, and further in view of Danitz et al. (US PGPub No. 2004/0236316A1).**

47. Regarding claim 22, the combination of Belson and Adams et al. discloses all of the limitations previously discussed except for segments that snap-fit into adjacent segments.

Brown et al. teaches a device having an articulating section including a plurality of connecting segments, the segments including male and female parts, the male part (42) engages within the socket of a female (44), the socket being sized with a diameter greater than that of the ball such that the ball is freely insertable within and removable from the socket in a snap-fit connection (column 5, lines 20-31, column 6, lines 10-17, 48-67, Fig. 2A).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided the segments of device of the combination of Belson and Adams et al. with a snap-fit connection, as taught by Brown et al., for the convenience and ease of assembly and disassembly (column 6, lines 50-55).

**48. Claims 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Belson (US PGPub No. 2003/0032859A1) in view of Adams et al. (US Patent**

**No. 6,179,776), as applied to claims 1 and 16 above, and further in view of Forknall et al. (US Patent No. 4,626,113).**

49. Regarding claims **32 and 33**, the combination of Belson and Adams et al. discloses all of the limitations previously discussed except for the slots having a narrow and smaller widths than the diameters of the projections at the mouth such that passage of the projections are resisted.

Forknall et al. teach a device having snap-fittings wherein the prongs (30) are inserted within slots (38), the slots having a narrow entrance that gradually enlarges, thus being capable of adapting to receive the prongs as a snap-fit (column 4, lines 22-25).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided the slots of the device of the combination of Belson and Adams et al. with narrow entrances, as taught by Forknall et al., to create a snap-fit connection (column 4, lines 22-25).

### ***Response to Arguments***

50. Applicant's arguments filed 10 May have been fully considered and were found to be persuasive with regard to Wolfe and Van Hoose. The rejections including Wolfe and Van Hoose have been withdrawn and new rejections have been submitted.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOCELYN C. TANNER whose telephone number is

(571)270-5202. The examiner can normally be reached on Monday through Thursday between 9am and 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anh Tuan Nguyen can be reached on 571-272-4963. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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